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# THE SCHOOL REVIEW

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## VOCATIONAL TRAINING IN CHICAGO SCHOOLS

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Before we accept the argument for a dual board of control for vocational education we should find out what the schools are actually doing that warrants the charge that they are failing to provide practical education. Chicago can show full-fledged vocational schools, industrial and technical courses, and well-equipped organization for the practical training of youth in the regular routine of high and grammar schools. The cosmopolitan high school, one in which cooking and blacksmithing are given in the same building with Greek and art, is not merely a possibility but a working actuality in this city. A brief summary of conditions will convince anyone that within the last half-dozen years Chicago has been rapidly spreading educational advantages to all classes of people. All of this is being done under the management of a single or unit board of education.

In the first place, the administration has perfected an organization to manage work for vocational and industrial education. One district superintendent gives his entire time to the problem of connecting up the schools with industrial needs of the city. Then there are two supervising officers for vocational and technical courses in the high schools, both appointed within the last year or two. In addition to these persons there is a supervisor

of household arts and sciences for the schools and a supervisor of industrial work in the grades.

In the second place, the advocates of the dual system of control have argued that the teachers now in the schools are academic and not practical enough to meet the needs of the industrial education of children. They cite the passing of the old manual-training school, which owed its failure partly to the theoretical and academic teachers who took charge of it. Whether this bit of history be true or not as regards manual-training schools, the present vocational schools of Chicago are safe from that danger because they have practical teachers to handle the work in industries and vocations. The following regulations make clear the practice in the city schools. On October 19, 1910, the superintendent of schools

reports that the work of giving technical instruction in the evening schools to young men and women engaged in the industries has been greatly handicapped for want of teachers who have had a trade experience necessary to equip them for giving the proper kind of instruction. Teachers with good technical-school training, but without experience in the industries, may be had, but such are not competent to do the work required because of the lack of actual trade experience. The right kind of teachers is hard to find, and if the superintendent is given authority to employ such persons when found, their services may be made available at once in the evening schools. The superintendent, therefore, recommends that sec. 118 of the Rules of the Board be suspended, and that authority be granted to the superintendent of schools to issue temporary certificates to graduates of technical schools of good standing who have had the necessary experience in the trades and to employ them as teachers in the evening schools, subject to the approval of the committee and of the Board, such certificates to expire at the end of the school year. The superintendent requests emergency authority to act at once on this matter.

This request was granted.<sup>1</sup> On January 8, 1913, the superintendent recommends that authority be granted to the superintendent of schools to issue when necessary temporary certificates to men and women with the expert experience that equips them to give practical instruction in their trades, such certificates to expire at the end of the school year; to assign said teachers in the day school, subject to the approval of the Board; and to place said teachers on the regular schedule for technical teachers in the high school if the assignment be a high school, and on the regular

<sup>1</sup> *Proceedings of Board*, 1910-11, p. 242.

schedule for manual-training or household arts teachers in the elementary school, if the assignment be to an elementary school.<sup>1</sup>

At the present time, in the high schools, night schools, and elementary schools, there are many men and women teaching who have had the most complete and successful trade experience in the world of industry. A list of a few of the schools and the courses where teachers of this type are employed will refute the arguments of the advocates of dual control that the schools cannot get "practical" teachers to do the work required and demanded by the business world.

In eight of the high schools of the city there are full four-year courses in technical instruction now in operation. The teachers in these schools are in the majority of cases "practical" men, the others being school men with college training in technical subjects but no trade experience.

#### Crane Technical High School

Woodwork . . . . .	3	practical men (from the trades)
" . . . . .	5	college-trained men (no trade experience)
Foundry . . . . .	2	practical men
Forge . . . . .	2	practical men
Machine shop . . .	2	practical men
Electrical . . . . .	1	practical man
" . . . . .	1	with some practical experience

#### Lane Technical High School

Woodwork . . . . .	2	practical men
" . . . . .	5	college-trained men
Foundry . . . . .	1	practical man
Forge . . . . .	2	practical men
Machine shop . . .	3	practical men
Electrical . . . . .	1	practical man
" . . . . .	1	college-trained man

#### Lake Technical High School

Woodwork . . . . .	2	practical men
" . . . . .	1	college-trained man
Foundry . . . . .	1	practical man
Forge . . . . .	1	mechanic
Machine shop . . .	1	practical man

Bowen High School has all practical men in shop and foundry.

Schurz High School has three practical men and one man without trade experience in its shops.

Senn High School has two practical men and three college mechanics.

Hyde Park High School has all practical men in its shops.

Harrison Technical High School has all practical men in shop and foundry.

<sup>1</sup> *Proceedings of Board*, 1912-13, p. 659.

The above list of eight high schools does not contain all of the men in technical work now employed in the various schools of the city, but it gives an idea of the extent to which men with trade experience have been brought into the work of teaching.

In the commercial courses and the courses for girls there exists the same proportion of teachers with actual commercial and trade experience as shown in the technical courses.<sup>1</sup> Work in accounting and stenography and office preparation is carried on by students under teachers directly from offices and commercial employments. Women with experience as milliners, dressmakers, managers of dining-rooms, and shop workers are in many cases in charge of classes in the Flower Technical School for girls and other high schools of the city.

The night-school classes are taught in a majority of cases by men and women with trade experience. Such courses as sewing, and dressmaking, millinery, bookkeeping, stenography, chemistry, electricity, mechanical drawing, freehand drawing, printing, and agriculture are in the hands of teachers who know their jobs by actual experience.

There is absolutely no excuse, so far as getting practical trade people to teach, for a dual control of our schools. Chicago can show this class of teachers in all of her high schools. Of course the difficulty of getting a man or woman experienced in the industries and at the same time a competent instructor of boys and girls is felt now, but would in no way be lessened by a dual system. It is recognized in the schools now, where such persons have been taken in from the trades, that not all of them will ever become first-class teachers, but the vast majority of them soon learn through association with the regular academic teachers how to do the work. It is this sort of association between the two types of teachers that will make possible the success of the work of each class, and a dual system would therefore defeat the end of good teaching.

<sup>1</sup> Of the 37 teachers of stenography, bookkeeping, commercial law, and commercial geography who entered the day schools during the past year, 26 came direct from the business world; the others had been teachers of commercial subjects in other schools. In the commercial department of the evening schools, 40 teachers with practical experience were added.

If we turn now to the courses offered in the city schools for vocational and industrial training, we are struck by the rapidity with which this work has been taken over into the regular school curriculum and made an organic part of the schools. People who wish to establish vocational schools, *in addition to* the schools already in operation, must be blind to the fact that such schools are already working very efficiently now under the unit management. Notice the various branches now in operation:

1. Industrial centers in 20 elementary schools. (There would have been 46 of this type of school this year if money had been available.) In these schools children in the upper grades—the sixth, seventh, and eighth—are furnished opportunity to enter upon vocational training.

2. Prevocational courses in the technical high schools. Here boys and girls over-age but behind in school work are instructed in vocations.

3. Two-year vocational courses in all of the 22 high schools of the city. These courses are eleven in number as follows: accounting, shorthand, mechanical drawing, designing, carpentry, pattern-making, machine shop, electricity, household arts, printing, horticulture. Two or more of these courses are given in all the schools and most of them could give practically all such courses.

4. Four-year vocational courses as follows: commercial, office preparatory, technical, general trades, household arts, arts, and architecture. In addition to the regular technical high schools, these courses are given in most of the regular high schools where the general, the science, and the normal preparatory courses are given.

5. Apprenticeship courses in several industries: carpenters, electrical workers, plumbers, machinists, sheet-metal workers.

6. Two-year college course for technical education and engineering.

7. Evening-school courses in more than twenty vocational subjects.

A careful study of the following items will show something of the status of vocational education in Chicago:

1. Industrial centers: On May 3, 1911, "the superintendent of schools reports that a division should be made in the elementary

course of study at the beginning of the sixth grade for the purpose of providing an industrial and a general course for pupils, each of which will meet the requirements of graduation and entrance to high school."<sup>1</sup>

Again on January 24, 1912, the superintendent returns to this subject and reports that

in accordance with this authority, the superintendent, after conference with members of the education department, arranged for two courses of study, and the new division—the industrial course—was printed with the general course of study, and distributed to all of the schools before the opening of September, 1911, so that teachers and principals might be familiar with the tentative plan proposed. As this is the first arrangement of a course of study along these lines, it has been necessary to give consideration to all the details, and up to the present time it has not been possible to determine whether there will be money available during this year for the two extra teachers of industrial and vocational subjects who will be required in each school in which the new division of the course is introduced. As it now appears that enough money will be available to provide these teachers, and as a number of requests have been received from principals of schools like the Jackson and Von Humboldt, situated in congested districts, for the introduction of a course which will keep pupils longer in school and fit them better for their vocations, the superintendent recommends that authority be given to introduce the new course at the beginning of the new semester, and to assign the two additional teachers at each school selected by the superintendent for the introduction of the course.<sup>2</sup>

From letters of principals and teachers in these schools we give the following items:

(1) "In two years since opening center, membership in the eighth grade is 86.9, while for two previous years it was 73.1." (2) "While pupils devote only half as much time to academic subjects as formerly, yet they cover the grade work and the results are creditable." (3) "We have better attendance since opening, and children have less desire to go to work." (4) "Attendance in these grades is larger and more regular than ever before." (5) "Pupils over fourteen remain. Mending in the homes is attended to and cooking and housekeeping are done better. Many pupils go to Flower and Lake Technical schools." (6) "Membership is larger than ever in the sixth, seventh, and eighth grades. The children are happy in their work. The joy of doing things with their own hands gives them encouragement that they, too, are *becoming a vital part* of the great world about them." (7) "Attendance 1913 (before opening), 97.16; in 1914 (first year), 97.72; graduates 1913 were 34,

<sup>1</sup> *Proceedings of Board*, 1910-11, pp. 873-74.

<sup>2</sup> *Proceedings of Board*, 1911-12, pp. 523-24.

in 1914, 47." (8) "This work promotes attendance and pupils will not miss a cooking, sewing, or manual-training class." (9) "An unusual number of girls have gone to work in private families." (10) "Increased attendance—keeps older boys in school." (11) "A decided decrease in the number of work certificates issued to pupils in grades having this work." (12) "Improved attendance." (13) "Fewer boys ask for work certificates and more boys over fourteen in grade than in previous years." (14) "This industrial work has materially affected our attendance. Many more pupils now remain in school until they complete the elementary course. In 1913, before opening this industrial center, 63 pupils were accredited to the high schools. During 1914 we graduated 97 pupils, a gain of 54 per cent in number of pupils completing the grammar grades."

## 2. Prevocational figures:

Crane . . . . .	No report	
Flower . . . . .	Cooking and sewing . . . . .	76
Harrison . . . . .	Various lines . . . . .	35
Lake . . . . .	No report	
Lane . . . . .	Woodworking . . . . .	48
	Forge . . . . .	60
	Machine shop . . . . .	24
	Printing . . . . .	60
	Foundry . . . . .	20

Total prevocational reported . . . . . 323

For the two-year vocational, the four-year vocational, the two-year college courses, see the following tabulation of the high-school work of the city. This tabulation (Table I) was compiled from reports of the principals made in January, 1915, and shows the relative numbers taking the courses offered in the high schools. If one remembers that the two-year vocational course was opened in 1910 he may appreciate the rapidity with which it has grown. This growth has not been at the expense of the general course, but indicates an increased number of boys and girls attending high school.

A summary of the commercial work being done in the two-year courses of the high schools of Chicago made in November, 1914, gives the following results:<sup>1</sup>

Business English studied by	5,352
Stenography	" 4,195
Bookkeeping	" 3,045

making a total of . . . . . 12,592 enrolments in the classes of the high schools in the two-year studies fitting for offices and clerical work in the city.

<sup>1</sup> This summary includes Morgan Park High School.



High School and Subjects	General Course	Normal Preparatory	Science	2-Year Vocational				4-Year Vocational	Technical College 2-Year	Prevocational	Apprentice	Total Attendance	Percentage Vocational and Technical	Percentage 2-Year Vocational
				1912-13	1913-14	1914-15								
Austin . . . . .	522	175	43	40	50	66								
Accounting . . . . .				110	130	157								
Stenography . . . . .					10	17								
Carpentry . . . . .					15	24								
Electricity . . . . .								48						
Commercial . . . . .								153				1,215	39	21
Technical . . . . .								10						
Arts . . . . .														
Bowen . . . . .	609	45												
Accounting . . . . .						141								
Stenography . . . . .						140								
Mech. drawing . . . . .						28								
Machine shop . . . . .						4								
Household arts . . . . .						2		1						
Architectural . . . . .								8						
Commercial . . . . .								5						
Technical . . . . .								44						
Calumet . . . . .	169	49	5											
Accounting . . . . .						24								
Stenography . . . . .						60								
Mech. drawing . . . . .						6								
Pattern-making . . . . .						6								
Electricity . . . . .						1								
Commercial . . . . .								20						
Office preparatory . . . . .								1						
Household arts . . . . .								10						
Architectural . . . . .								10						
Crane . . . . .								1,283	136		57	1,476	100	0

[illegible]

High School and Subjects	General Course	Normal Preparatory	Science	2-Year Vocational				4-Year Vocational	Technical College	Prevocational	Apprentice	Total Attendance	Percentage Vocational and Technical	Percentage 2-Year Vocational
				1912-13	1913-14	1914-15	1914-15							
Hyde Park.....	1,428	98	61	.....	.....	.....	236	251	.....	.....	.....	2,074	23	11
Lake.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Electricity.....	.....	.....	.....	.....	.....	.....	77	.....	.....	.....	.....	.....	.....	.....
Commercial.....	.....	.....	.....	.....	.....	.....	236	.....	.....	.....	.....	.....	.....	.....
Mech. drawing.....	.....	.....	.....	.....	.....	.....	12	.....	.....	.....	.....	.....	.....	.....
Machine shop.....	.....	.....	.....	.....	.....	.....	12	.....	.....	.....	.....	.....	.....	.....
Technical.....	.....	.....	.....	.....	.....	.....	.....	210	.....	.....	.....	550	100	61
Architectural.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....
Lake View.....	674	55	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Accounting.....	.....	.....	.....	.....	.....	.....	136	.....	.....	.....	.....	.....	.....	.....
Stenography.....	.....	.....	.....	.....	.....	.....	194	.....	.....	.....	.....	.....	.....	.....
Commercial.....	.....	.....	.....	.....	.....	.....	.....	15	.....	.....	.....	.....	.....	.....
Office preparatory.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....
Technical.....	.....	.....	.....	.....	.....	.....	.....	16	.....	.....	.....	1,185	37	29
Household arts.....	.....	.....	.....	.....	.....	.....	.....	33	.....	.....	.....	.....	.....	.....
Arts.....	.....	.....	.....	.....	.....	.....	.....	15	.....	.....	.....	.....	.....	.....
Architectural.....	.....	.....	.....	.....	.....	.....	.....	14	.....	.....	.....	.....	.....	.....
Lane.....	.....	.....	.....	.....	.....	.....	.....	.....	1912-13 46 1913-14 59 1914-15 74	.....	.....	.....	.....	.....
Mech. drawing.....	.....	.....	.....	134	163	170	.....	.....	.....	.....	Carpenters 174	.....	.....	.....
Carpentry.....	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....
Pattern-making.....	.....	.....	.....	3	8	18	.....	.....	.....	.....	Gasfitters and Plumbers 127	.....	.....	.....
Machine shop.....	.....	.....	.....	30	34	37	.....	.....	.....	24	.....	.....	.....	.....
Electricity.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing.....	.....	.....	.....	217	257	354	.....	.....	.....	.....	.....	2,146	100	27
Technical.....	.....	.....	.....	.....	.....	12	.....	.....	.....	60	.....	.....	.....	.....
Gen. trades.....	.....	.....	.....	.....	.....	.....	.....	850	.....	.....	.....	.....	.....	.....
Architectural.....	.....	.....	.....	.....	.....	.....	.....	46	.....	.....	.....	.....	.....	.....
Wood-working.....	.....	.....	.....	.....	.....	.....	.....	64	.....	.....	.....	.....	.....	.....
Forge.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	48	.....	.....	.....	.....
Foundry.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	60	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	.....	.....	.....	.....

[illegible]

High School and Subjects	General Course	Normal Preparatory	Science	2-Year Vocational			4-Year Vocational	Technical College	Prevocational	Apprentice	Total Attendance	Percentage Vocational and Technical	Percentage 2-Year Vocational
				1912-13	1913-14	1914-15							
Schurz.....	987	125	50	123	120	105	.....	.....	.....	.....	.....	.....	.....
Accounting.....	.....	.....	.....	271	245	263	.....	.....	.....	.....	.....	.....	.....
Stenography.....	.....	.....	.....	17	20	24	.....	.....	.....	.....	.....	.....	.....
Mech. drawing.....	.....	.....	.....	.....	3	2	.....	.....	.....	.....	.....	.....	.....
Pattern-making.....	.....	.....	.....	63	73	36	60	.....	.....	.....	1,910	38	22
Household arts.....	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....
Machine shop.....	.....	.....	.....	6	4	2	.....	.....	.....	.....	.....	.....	.....
Carpentry.....	.....	.....	.....	.....	.....	.....	41	.....	.....	.....	.....	.....	.....
Commercial.....	.....	.....	.....	.....	.....	.....	210	.....	.....	.....	.....	.....	.....
Technical.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Senn.....	1,575	75	20	.....	.....	297	20	.....	.....	.....	1,987 approximately	15	14
Vocational.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Technical.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tuley.....	470	93	.....	85	106	145	.....	.....	.....	.....	.....	.....	.....
Accounting.....	.....	.....	.....	139	158	204	.....	.....	.....	.....	913	38	38
Stenography.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Waller.....	465	59	8	281	302	294	4	.....	.....	.....	830	35	35
Commercial.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	11,491	1,807	321	.....	.....	6,091	4,358	210	323	517	25,118	45	24

Apprentice classes are conducted in the schools at the present time and have enrolled in the different lines of work:

Carpenters.....	236
Plumbers.....	174
Electrical workers.....	83
Machinists.....	24
Sheet-metal workers (until recently).....	30
Total in attendance.....	547

Classes are to be opened at an early date for printers, bakers, and druggists. Most of this work can be carried on and is being carried on with the facilities already at hand with perfect ease and effectiveness. The arguments for a dual system that would double the school plants because there were no opportunities for the industrial workers in the present school organization have no validity so far as the apprenticeship courses are concerned, because they have been accommodated from the first and can continue to utilize the present school plant almost indefinitely.<sup>1</sup>

In the two-year college engineering course the following work is given. This work has been given in two of the high schools of the city and has been successfully carried on. First year: mathematics, science, English, gymnasium are required, while modern language, shop, science, design are elective. Second year: mathematics, science, English, gymnasium are required, and shop, science, engineering, modern language are elective.

A summary of evening-school attendance for November 5, 1914, shows the following work and attendance:

Household courses:

	Women	Total
High-school sewing and dressmaking.....	987	987
Elementary sewing.....	680	680
Millinery.....	276	276
Cooking, high school.....	177	177
Cooking, elementary.....	335	335
Total household courses.....		2,446

<sup>1</sup> An advisory board consisting of a member of the union concerned, a member of the employes' association, and a member of the Board of Education plans the course and conduct of the work.

## Commercial classes:

	Men	Women	Total
Bookkeeping.....	767	321	1,085
Stenography.....	862	1,323	2,185
Special business course.....	213	58	271
Commercial law.....	91	7	98
Total commercial courses.....			3,639

## Industrial subjects:

Chemistry.....	188	18	206
Electricity.....	744	.....	744
Woodworking.....	943	1	984
Pattern-making.....	84	.....	84
Machine shop.....	305	.....	305
Foundry.....	55	.....	55
Forge.....	201	.....	201
Mechanical drawing.....	1,247	12	1,259
Freehand drawing.....	95	22	117
Printing.....	123	.....	123
Agriculture.....	36	4	40
Total industrial subjects.....			4,041

Total household, commercial, and industrial..... 10,126

## Other classes:

English, for foreigners.....	8,809	2,650	11,459
Elementary grade work.....	2,886	994	3,880
Regular high-school subjects.....	1,704	814	2,518
Physical education.....	264	413	677
Classes for deaf.....	2	9	11
Total other classes.....			18,545
Grand total, less 295 counted twice.....			28,376
Grand total for first quarter last year.....			21,839

Evening schools have been easily managed by the single or unit system of control and have been extended as rapidly as money was available for them. A dual control would simply add to the expense of the taxpayer by requiring a duplication of building and apparatus for the evening schools where now there is sufficient of both in the regular schools.

It is evident from the growth of vocational and industrial courses in the schools of Chicago that what is needed is more money to foster the work already begun and not an entirely new set of schools.